

Original Article

Effectiveness of academic stress management programme on academic stress and academic performance among higher secondary students in selected schools of Udupi District

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Abstract

Problem statement: "A study to assess the effectiveness of academic stress management programme on academic stress and academic performance among higher secondary students in a selected school of Udupi district, Karnataka, India"

Objective : To evaluate the effectiveness of academic stress management programme on academic stress and academic performance.

Materials and Methods: Study was conducted among 96 subjects. Data were collected using Demographic Proforma and Academic stress Rating Scale. Academic performance was assessed by verifying existing school records of formative evaluation test conducted in the month of January and February 2013. Academic stress management programme was provided one hour per day for three consecutive days.

Result: Data were analysed using t test and Wilcoxon signed rank test. Result showed a significant difference in pretest post test stress level and academic performance.

Conclusion: The findings of the study indicated that academic stress management programme was effective in reducing academic stress but not in improving academic performance.

Keywords: academic stress, academic stress management programme, academic performance, higher secondary students

Introduction

Adolescence can be a stressful time for parents and adults who work with teens. Children are dealing with the challenges of going through puberty, meeting changing expectations and coping with new feelings. Many also worry about moving from a middle or junior high school to secondary school level.¹ Adults always under estimate the level of stress on teens and young adults. Adolescents experience a spectrum of stress ranging from ordinary to

severe. Long term exposure to stress is associated with a variety of chronic psychological and physiological illness in addition to smoking, drug abuse and high risk sexual behaviour.²

A cross sectional descriptive study was carried out by De Silva, Liyanage and Katulanda (2011) among 6000 grade 10 and 12 school children of Colombo District, selected by multi-staged Stratified random sampling, using Sheldon Cohen's self-administered "Global Measure of Perceived Stress scale(PSS) to assess the prevalence of stress among adolescent school children. Mean Perceived Stress Scale score was 15.29 (SD=5.34). When compared to a student in grade 10 (mean: 13.2), students following Advanced Level (AL) mathematics (mean: 15.19, $p<0.001$) and biology (mean: 15.03, $p<0.001$) were less likely to have a higher stress score. Researcher found that students who had <69 marks for the previous term test had a higher stress when compared to students who had >90 marks.³

A cross-sectional study was conducted by Feld (2011) among three hundred eighty students in grades 9 through 12 from two colleges preparatory high schools of Wesleyan

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University, Middletown with a purpose to explore the effects and sources of stress in high-achieving environment. Tools used were students life satisfaction scale, school attitude assessment questionnaire revised, and questions about stress, health, coping, internal and external expectations, peers, support-seeking behaviour, and stress reduction. Eighty four percentage of students reported that their homework load had a major effect on increasing their stress level. Personal drive was also reported to have a high effect on stress level by 65.5% of students. College goals had a high effect on increasing stress level for 57.7% of students and expectations of their parents had a high effect on increasing their stress level for 51.1% of students. Students who experience more stress spend more time on their academic work ($r = 0.294$, $p < .001$). Additionally, students who spend more time on their work tend to have higher GPAs ($r = 0.251$, $p < 0.001$). The importance of academic success to themselves is positively correlated with stress level ($r = 0.195$, $p < 0.01$). More than 50% of students experiencing mood swings irritability, inability to initiate work and lack of concentration at least once in a week. More than 20% students experience inability to initiate work and lack of concentration and constant fatigue almost every day and 28% of students experience 5-10 symptoms of stress per week. The study found a significant but weak association between stress and the prevalence of symptoms per week ($r = 0.387$, $p < 0.001$).⁴

A study was conducted by Taragar (2008) in Dharwad taluk of Karnataka state to assess the stress among high school students and its relationship with demographic variables. A total of 538 students completed the stress scale prepared by the researcher. Among male students 66.00 %, 25.50 % and 8.50 % of the students experienced stress, high stress and low stress respectively, among female students 71.70 %, 21.90 % and 6.40 % of the students experienced stress, low stress and high stress respectively. On the whole, 69.00 %, 15.60 % and 15.40 % of the students experienced stress, high stress and low stress respectively. The chi-square value 47.34 indicated that there was a significant association between gender and stress ($p = 0.01$).⁵

The Objective of the study was to evaluate the effectiveness of academic stress management programme on academic stress and academic performance.

Materials and Methods

Evaluative approach with quasi experimental design was considered for the study. The study was conducted among 96 higher secondary school students selected from selected pre university colleges of Udupi district. Private English medium schools following state syllabus and having monthly class test as a part of formative evaluation was included. Convenient sampling technique was adopted to select the samples. Formal administrative permission was taken from the Dean, Manipal College of nursing, Manipal. Institutional Ethics Committee (IEC) clearance and permission was obtained to conduct the study. Permission was also obtained from institutional research committee, MCON, Manipal. Written permission was taken from school authority. Purpose of the study was explained to the participants about the study and written consent was obtained from the subjects.

Demographic preforma was developed by the researcher to collect back ground information of the subjects selected for the study. Academic stress rating scale was developed by the researcher and it consists of 32 items. The items are expressed in the form of statements. Each item has 4 alternatives: strongly agree, agree, disagree and strongly disagree with the scoring of 1, 2, 3 and 4 respectively. Items are given under headings of examination stress, stress from peers, and stress from self, study habits and time management. The highest score was 128 and lowest score was 32. Academic stress were categorised as mild (32-64), moderate (65-90) and severe (91-128). Content validity of the demographic proforma and stress scale was ensured by giving to subject experts. The modifications made as per the experts suggestions are as follows. Reliability of the tool was established using Cronbach's alpha method and was established as 0.74.

Demographic Proforma and Academic Stress Rating Scale were administered to the subjects on the first day of the data collection and academic stress management

programme was conducted on three consecutive days. Intervention was provided two weeks before their examination. Average time taken to fill in the questionnaire was 15 minutes. After that one hour session was conducted. First session was on causes of stress among students, effects of stress on body and mind and time management. Students prepared time management plan for a week. Second day the session was on study habits. Third day dealt with examination preparation and demonstrated relaxation techniques such as meditation, deep breathing and JPMR. Post test was conducted 30 days after intervention, after participants' examination result published. For 48 subjects in the control group pre-test and post test only were conducted.

Statistical methods

Data were analysed using SPSS 16 version software. Data were analysed using descriptive and inferential statistics. Level of significance was 0.05. Normality of the data was tested using Shapiro Wilk test. Paired t test was used for comparing the pre-test and post-test stress score of intervention group. Man Whitney U test was used for comparing the post-test stress scores of intervention and control group as the data did not follow the normal distribution. Wilcoxon signed rank test was used for comparing the median pre-test and post-test academic score of intervention group as the data were not following normal distribution.

Results

Description of sample characteristics

Sample characteristics are given in table 1.

Description of stress

Majority (80.2%) of the students experienced moderate level of academic stress and only 6.2% students had severe academic stress. Moderate level of stress was experienced by 13.5% of the subjects. Majority (46.9%) of them were having poor academic performance and 40.6% subjects had average level of academic performance.

Effectiveness of academic stress management programme on academic stress

Findings are presented in table 2. Significant difference is found between mean pre-test and post-test stress scores as the p value is 0.001 and t value is 5.13. Hence it is inferred that academic stress management programme is effective in reducing academic stress among higher secondary students. Significant difference is also found between post-test median stress scores of intervention and control group ($p=0.032$).

Effectiveness of academic stress management programme on academic performance. Data in table 3 show that p value is statistically significant 0.05 level ($p=0.002$). Man Whitney U test was used for comparing the post-test academic scores of intervention and control group. Though there is increase in median scores, difference was not statistically significant ($p=0.631$). Hence it is inferred that academic stress management programme was not effective in improving academic performance among higher secondary students.

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Table1. : Frequency and percentage of sample characteristics

Sample Characteristics	Frequency	Percentage
Gender		
Male	22	45.8
Female	26	54.2
Education of Father		
Illiterate	1	2.1
Upper primary	18	37.5
High School		
PUC	15	31.2
Graduate Degree	12	25
Post Graduate Degree	2	4.2
Education of mother		
Illiterate	2	4.2
Upper primary	8	16.7
High School	14	29.2
PUC	14	29.2
Graduate Degree	9	18.8
Post Graduate Degree	1	2.1

Sample Characteristics	Frequency	Percentage
Type of Family		
Nuclear	36	75
Joint	9	18.8
Extended	3	6.2
Number of siblings		
Only Child	7	14.6
1	12	25
2	13	27.1
3	11	22.9
More than 3	5	10.4
Birth Order		
1	30	62.4
2	14	29.2
3	2	4.2
4	2	4.2
Family income		
<5000	3	6.2
5001-10000	10	20.8
10001-20000	29	60.4
>20000	6	12.5
Occupation of father		
Unemployed	14	29.2
Self employed	12	25
Unskilled	4	8.3
Non professional	12	25
Professional	6	12.5
Occupation of mother		
Housewife	41	85.4
Working	7	14.6

Table 2 : Mean, Standard deviation, Standard error and p value of pre-test and post-test stress level of intervention group.

Stress	mean	Std. deviation	Std. error	t - value	p - value
Pre test	78.5	10.69	1.54	5.14	0.001
Post test	75.20	9.18	1.32		

Discussion

The present study concluded that academic stress management programme was effective in reducing academic stress ($t=5.13$, $p=0.001$) and not in improving academic performance ($t=0.480$, $p=0.631$) Similar findings were reported in the study conducted

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Table 3 : Median, Inter quartile range, z value and p value of pre-test and post-test academic score of subjects.

Academic score	mean	Inter quartile range	Z value	p-value
Pre test	334	277-416	3.08	0.002
Post test	342	290-419		

by Vliet and Andrews (2009) to find the effectiveness of Internet-based course for the management of stress for junior high schools. Its findings revealed significant increases in knowledge [$F(2,159)=9.735$, $p=0.001$, $ES=0.36$] and support seeking coping [$F(2,159)=9.921$, $p=0.001$, $ES=0.015$] and significant decreases in stress, avoidant coping [$F(2,159)=3.331$, $p=0.037$, $ES=0.22$] and the total difficulties over time [$F(2,159)=3.298$, $p=0.038$, $ES=0.16$]. Present study findings are also in harmony with the findings of the study conducted by Tenenbaum (2012) among 17 school children from a private school in Atlanta to find out the effectiveness of a school based intervention on test anxiety. Self-reported anxiety collected before and after intervention and data analysed using paired t test. Result demonstrated significant reductions in anxiety disorders for the participants involved (MD: 3.63, $t=2.31$, $p=.036$). A meta-analysis done by Kraag, Zeegers, Kok, Hosman and Saad (2006) also supported the findings of present. They evaluated the effect of school programs targeting stress management or coping skills in school children. Overall effect size for the programs was - 1.51. Effect was calculated per intervention type, and positive effects were found for stress symptoms with a pooled effect size of - 0.865 (95% CI: - 1.229, - 0.502) and for coping with a pooled effect size of - 3.493 (95% CI: - 6.711, - 0.275).⁸

Conclusion

The findings of the study indicated that academic stress management programme was effective in reducing academic stress but not effective in improving academic performance. It is concluded that there could be various other factors influencing academic performance of higher secondary students.